



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,426	11/26/2003	Johnny Zhong	15436.135.1	1047
7590	05/22/2006		EXAMINER	
R. BURNS ISRAELSEN WORKMAN NYDEGGER 1000 Eagle Gate Towe 60 East South Temple Salt Lake City, UT 84111			WONG, ERIC K	
			ART UNIT	PAPER NUMBER
			2883	
DATE MAILED: 05/22/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/724,426	ZHONG ET AL.
	Examiner	Art Unit
	Eric Wong	2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 February 2006.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 6-11,13-21,23 and 24 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 6-11,13-21,23 and 24 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims rejected in the prior Office Action have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Number 6,871,022 to Xu, and further in view of United States Patent Number 6,278,818 to Laming et al.

Xu discloses in figures 6, 16A-B, and 19A-B, an optical add/drop module for adding or dropping one or more channels from a wavelength division multiplexed (WDM) signal, the optical add/drop module comprising:

- A drop portion comprising a plurality of thin film filters, wherein each thin film filter drops a particular channel from a WDM signal (dichroic thin film devices are disclosed);
- An add portion that adds channels of the WDM signal dropped by the drop portion back to the WDM signal, wherein the add portion comprises:
  - A first stage of interleavers; and

- A final stage including a thin film interleaver, wherein the thin film interleaver has a flat-top frequency response (column 12, lines 9-26). Xu describes in figure 10 that a dichroic thin film device (1045).

As to claims 7-8, an add/drop module with a thin-film interferometer would inherently be able to add or drop particular channels.

As to claim 9, light is reflected and transmitted in multiple vectors.

As to claim 10, multiple channels are used.

As to claim 11, flat-top frequency response is optimized.

As to claim 13, channel isolation and suppressed crosstalk is achieved.

As to claim 14, optical spacers are used to construct the WDM interleaver.

However, Xu fails to explicitly disclose the use of a "fused fiber" interleaver, but does disclose that interleavers are conventionally made by fusing together two optical fibers (figure 2 and description).

Laming teaches a channel add/drop multiplexer using a fused optical fiber coupler to extract (drop) a specified wavelength.

Since Xu and Laming are both from the same field of endeavor, the Laming reference would have been recognized in the pertinent art of Xu.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the fused optical fibers of Laming as the interleavers of Xu for the motivation of reducing cost, bulk and to lower insertion losses.

4. Claims 15-21, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu as applied to claims above, and further in view of applicant's disclosure of prior art.

Xu discloses a thin film based add/drop optical module using interleavers, but fails to explicitly disclose the method of Coarse Wavelength Division Multiplexing (CWDM).

Applicant discloses in the background of the invention that WDM, DWDM and CWDM are commonly used in the art of multiplexing in order to increase bandwidth using multiple interleavers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the WDM of Xu to allow for use with a CWDM signal disclosed by applicant as a matter of obvious design choice based on its intended use and to increase bandwidth for the module of Xu.

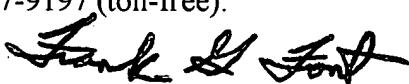
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
er

  
Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2800